IMPRES™

Smart Energy System

Motorola's state-of-the-art IMPRES™ technology allows communication between the battery and the charger. The result – a radio system that's charged and ready to go whenever you need it.

Unique Battery Charging and Reconditioning Solution

Automated battery maintenance

Now manual tracking and recording of battery use are a thing of the past. IMPRES™ uses a unique communications protocol to facilitate adaptive reconditioning – the charger evaluates the details of the battery's usage pattern to determine the optimal reconditioning interval. This automated process works to diminish memory effect and optimize the cycle life of the battery and maximize talk time.

Chargers that communicate

IMPRES multi-unit chargers are available with a two-line display module. Your customers now have access to valuable information such as:

- Battery capacity (in mAh and percent of minimum rated capacity) and voltage while charging and at completion of charge
- Time remaining to complete rapid charging (NiCd and NiMH only)
- Current battery charge status
- The battery's unique serial number, part number and chemistry

Knowledge is power. Now you can make informed decisions on battery replacement and asset management.

Long-term safe charging

IMPRES batteries may be left in IMPRES chargers for extended periods without heat damage due to the charger and will be monitored by the charger so that they are charged and ready to go whenever they are needed.

Support for mixed battery inventories

IMPRES chargers are compatible with non-IMPRES Motorola batteries, making the migration to all IMPRES much easier. However, automatic reconditioning and all other IMPRES features are realized only when using Motorola IMPRES batteries and chargers.

Extended warranty

When used exclusively with IMPRES chargers, IMPRES batteries carry extended capacity warranties that continue six months longer than Motorola Premium battery warranties.

Proven Tough

IMPRES batteries are subjected to the same rigorous testing and held to the same high standards as all Motorola Premium batteries. Actual results of Drop, Vibration and ESD (Electrostatic Discharge) tests prove that Motorola batteries outperform the competition. For details of all test results go to www.proventough.com.

MOTOROLA ORIGINAL BATTERIES
PROVEN TOUGH

IMPRES™ Smart Energy Systems – ready when you are.

Make sure your radios are ready for action when you are – an IMPRES battery may be left in an IMPRES charger for extended periods without heat damage due to the charger. This makes IMPRES ideal for applications that require equipment in a "ready" state at all times.

WPLN4130A
IMPRES Multi-Unit Charger
with Display Modules

Facts:

1. **IMPRES™ products are smarter because they "talk" to each other.**

   Motorola's industry-exclusive IMPRES technology allows communication between the charger and the battery, which enables automated battery reconditioning, display of critical charging information and other key benefits. IMPRES batteries have a memory chip that stores all usage information, which can then be accessed and evaluated by any IMPRES charger. IMPRES chargers have built-in reconditioning capability that is automatically utilized any time an IMPRES battery requiring maintenance is inserted.

2. **IMPRES chargers perform adaptive reconditioning.**

   Before the availability of IMPRES chargers with automatic, adaptive reconditioning, battery maintenance technicians had to guess at the correct reconditioning intervals. Reconditioning too often wasted battery cycles; not reconditioning often enough resulted in diminished battery performance. IMPRES has changed all that. IMPRES chargers evaluate the actual usage pattern of every battery to establish the optimal reconditioning interval.

3. **IMPRES offers long-term safe charging.**

   Most conventional chargers transition to a maintenance charge mode at the completion of a charge cycle. Maintenance charge is constant power applied to a battery in an effort to keep it charged over time. This results in long-term heating that can damage a battery, resulting in lost capacity. IMPRES chargers automatically turn off at the end of a charge cycle yet continue to electronically monitor IMPRES batteries every 5 minutes to determine when more energy should be applied to the battery. This process assures that the battery maintains a very high state of charge without sustaining heat damage due to the charger.

4. **Fully charged doesn't mean full battery capacity.**

   Most conventional chargers have an LED to indicate charge status. Red indicates charging and green indicates charge complete. But what does charge complete really mean? The charger is saying that it did the best it could given the condition of the battery and it is done. However, the resulting battery capacity could be far less than the original stated capacity for an old or defective battery, yet the user has no way of knowing that with only an LED indication. IMPRES chargers with displays provide the actual charge capacity of the battery, so you'll know exactly how much usage you will get from each battery.

5. **IMPRES charger LED indicators give additional information.**

   IMPRES chargers have additional LED indication capability to supply you with even more information during a charge cycle. The alternating red/green LED indicates batteries have fallen below a certain capacity threshold (typically less than 60% of rated minimum capacity). An IMPRES battery exhibiting a red/green indication is not defective – it has simply reached a capacity level that may limit its usage.

Myth:

Competitive batteries are IMPRES compatible.

Competitive battery manufacturers often claim to be "IMPRES compatible." While it may be true that some competitive batteries can be charged in IMPRES chargers, there are still significant limitations and concerns. The communication between an IMPRES battery and IMPRES charger that enables automatic reconditioning, display of IMPRES data on display chargers and other IMPRES features is a Motorola exclusive technology and will only occur with the combination of IMPRES batteries and IMPRES chargers. Motorola does not test the charge compatibility or safety of competitive batteries in IMPRES chargers.

Quick Reference Guide

IMPRES™ Battery and Charger Guide by Radio Series

Display shows battery capacity, voltage, charge status and more in real time.

WPLN4130A – With Display Modules (shown)
WPLN4108BR – Without Display Modules

For ASTRO® Digital XTS 3000™, XTS 3500™ and XTS 5000™			
BATTERY PART NUMBER	**CHEMISTRY**	**CAPACITY†**	**SPECIAL FEATURES**
HNN9031B	NiCd	1525mAh	
HNN9032B	NiCd	1525mAh	Intrinsically Safe*
NNTN4435B	NiMH	1800mAh	
NNTN4436B	NiMH	1700mAh	Intrinsically Safe*
NNTN4437B	NiMH	1700mAh	Intrinsically Safe*, Ruggedized
NTN9862C	Li-ion	2750mAh	
NNTN6034A	Li-ion	4150mAh	

For ASTRO® Digital XTS 1500™, XTS 2500™, MT 1500™ and PR1500			
BATTERY PART NUMBER	**CHEMISTRY**	**CAPACITY†**	**SPECIAL FEATURES**
NTN9858C	NiMH	2100mAh	
NTN9857C	NiMH	2000mAh	Intrinsically Safe*
NNTN6263A	NiMH	2000mAh	Intrinsically Safe*, Ruggedized

The batteries listed above are designed for use with the following chargers:

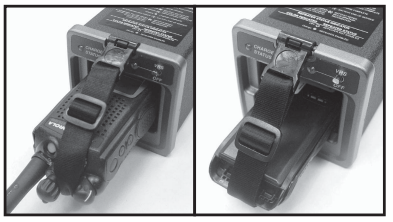
WPLN4111AR – IMPRES Single Unit Charger

WPLN4108BR – IMPRES Multi-Unit Charger

WPLN4130A – IMPRES Multi-Unit Charger with Display Modules

WPLN4208B – IMPRES Compatible Vehicular Charger

RLN5382A – Individual IMPRES Display Module for WPLN4108BR (Software Version 1.3 or later)



WPLN4208B – Charge the battery attached to the radio or alone.

NEWEST ADDITION! *IMPRES Compatible Vehicular Charger*

The new IMPRES compatible vehicular charger has full IMPRES charger to battery communication capability. This ensures continuity of IMPRES battery charge data logging in a vehicular environment, so the IMPRES battery will receive adaptive, automatic reconditioning and will qualify for the 6-month capacity warranty extension. It is important to note that the IMPRES compatible vehicular charger will not recondition IMPRES batteries due to operational demand in a vehicle, but it will provide an indication when reconditioning is required in an IMPRES desktop charger.

WPLN4111AR

For HT1000™, MT 2000™, MTS 2000™, JT 1000™, MTX8000™ and MTX9000™			
BATTERY PART NUMBER	**CHEMISTRY**	**CAPACITY†**	**SPECIAL FEATURES**
HNN9028AR	NiCd	1550mAh	
HNN9029AR	NiCd	1550mAh	Intrinsically Safe*

For Saber and ASTRO® Saber			
BATTERY PART NUMBER	**CHEMISTRY**	**CAPACITY†**	**SPECIAL FEATURES**
HNN9033B	NiCd	2000mAh	
HNN9034B	NiCd	2000mAh	Intrinsically Safe*

The batteries listed above are designed for use with the following chargers:

WPLN4111AR – IMPRES Single Unit Charger

WPLN4108BR – IMPRES Multi-Unit Charger

WPLN4130A – IMPRES Multi-Unit Charger with Display Modules

RLN5382A – Individual IMPRES Display Module for WPLN4108BR (Software Version 1.3 or later)

† Indicates minimum rated battery capacity.
* When used with an FM approved intrinsically safe radio unit.

Quick Reference Guide *(continued)*

IMPRES™ Battery and Charger Guide by Radio Series

WPLN4219A – With Display Modules (shown)
WPLN4212A – Without Display Modules

WPLN4232A

For MOTOTRBO™

BATTERY PART NUMBER	CHEMISTRY	CAPACITY†	SPECIAL FEATURES
PMNN4066A	Li-ion	1500mAh	Ruggedized
PMNN4069A	Li-ion	1400mAh	Intrinsically Safe*, Ruggedized

The batteries listed above are designed for use with the following chargers:

WPLN4232A – IMPRES Single Unit Charger

WPLN4212A – IMPRES Multi-Unit Charger

WPLN4219A – IMPRES Multi-Unit Charger with Display Modules

RLN5382A – Individual IMPRES Display Module for WPLN4212A

WPLN4192A – With Display Modules
WPLN4187A – Without Display Modules (shown)

Display shows battery capacity, voltage, charge status and more in real time.

WPLN4182A

For HT750™, HT1250™, HT1250•LS+™, HT1550•XLS™, MTX850™, MTX850•LS™, MTX8250™, MTX8250•LS™, MTX950™, MTX9250™ and PR860

BATTERY PART NUMBER	CHEMISTRY	CAPACITY†	SPECIAL FEATURES
HNN4001A	NiMH	1800mAh	
HNN4002A	NiMH	1690mAh	Intrinsically Safe*
HNN4003A	Li-ion	2000mAh	

The batteries listed above are designed for use with the following chargers:

WPLN4182A – IMPRES Single Unit Charger

WPLN4187A – IMPRES Multi-Unit Charger

WPLN4192A – IMPRES Multi-Unit Charger with Display Modules

RLN5382A – Individual IMPRES Display Module for WPLN4187A

† Indicates minimum rated battery capacity.
* When used with an FM approved intrinsically safe radio unit.

Specifications

IMPRES™
Smart Energy System

IMPRES Single Unit Chargers

MODEL NUMBER:	WPLN4111AR	WPLN4232A	WPLN4182A
Dimensions: (H" x W" x D")	3.23" x 3.82" x 7.88"	2.2" x 3.8" x 5.8"	2.2" x 3.8" x 5.8"
Input Voltage:	90-265 VAC 50-60 Hz	100-132 VAC 50-60 Hz	100-132 VAC 50-60 Hz
Charging Method: (all chargers)	CCDT / Negative Pulse (NiCd/NiMH) and CCCV (Li-ion)		
Charging Current: (maximum)	1.5 A	1.25 A	1.25 A
Warranty:	2 Years	2 Years	2 Years
Operating Temperature:	41° to 104° F	41° to 104° F	41° to 104° F

IMPRES Multi-Unit Chargers

MODEL NUMBER:	WPLN4108BR	WPLN4130A	WPLN4187A	WPLN4192A	WPLN4212A	WPLN4219A
Dimensions: (H" x W" x D")	6" x 17.5" x 11.5"	6" x 17.5" x 11.5"	6" x 17.5" x 11.5"	6" x 17.5" x 11.5"	6" x 17.5" x 11.5"	6" x 17.5" x 11.5"
Input Voltage:	90-265 VAC 50-60 Hz	90-265 VAC 50-60 Hz	90-265 VAC 50-60 Hz	90-265 VAC 50-60 Hz	90-265 VAC 50-60 Hz	90-265 VAC 50-60 Hz
Charging Method: (all chargers)	CCDT / Negative Pulse (NiCd/NiMH) and CCCV (Li-ion)					
Charging Current: (maximum)	1.5 A	1.5 A	1.5 A	1.5 A	1.5 A	1.5 A
Warranty:	2 Years	1 Year	2 Years	1 Year	2 Years	1 Year
Operating Temperature:	41° to 104° F	41° to 104° F	41° to 104° F	41° to 104° F	41° to 104° F	41° to 104° F

IMPRES Compatible Vehicular Charger

MODEL NUMBER:	WPLN4208B
Dimensions: (H" x W" x D")	3.23" x 3.82" x 7.88"
Input Voltage:	10.8-16.6 VDC
Charging Method:	CCDT (NiCd/NiMH) and CCCV (Li-ion)
Charging Current: (maximum)	1.25 A
Warranty:	1 Year
Operating Temperature:	5° to 122° F (Charge rate decreased at extreme temperatures.)

IMPRES Battery Warranty
24 months against any defects in manufacturing or workmanship. Nickel-Cadmium batteries are warranted to maintain 80% rated capacity for 18 months. Nickel-Metal Hydride and Lithium-ion batteries are warranted to maintain 80% rated capacity for 12 months. IMPRES batteries charged exclusively in IMPRES chargers carry an additional 6 months of capacity warranty.

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